MISSOURI

GEOLOGICAL SURVEY

VOLUME V.

PALEONTOLOGY OF MISSOURI

(PART II)

BY

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JEFFERSON CITY:
TRIBUNE PRINTING COMPANY, PRINTERS AND BINDERS.
1894.

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CHAPTER X.

POLYZOANS.

Phacelopora pertenuis Ulrich.

Plate xxxiii, fig. 3.

Phacelopora pertenuis Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 406, pl. xxix, figs. 1-1c.

Horizon and localities.—Lower Silurian, Trenton limestone: Thebes (Illinois); apparently the same form occurs in Missouri below Cape Girardeau.

Homotrypa arbuscula Ulrich.

Homotrypa arbuscula Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 409, pl. xxxviii, figs. 3-3c.

Horizon and localities.—Lower Silurian, Trenton limestone: Calhoun county (Illinois).

Leioclema gracillimum Ulrich.

Leioclema gracillimum Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 429, pl. lxxv, figs. 6-6b.

Horizon and localities—Lower Carboniferous, Burlington limestone: Hannibal; Keokuk limestone: Clark county; Keokuk (Iowa); Warsaw (Illinois).

Leioclema punctatum (Hall).

Callopora punctata Hall, 1858: Geology Iowa, vol. I, p. 653.
Callopora missouriensis Rominger, 1866: Proc. Acad. Nat. Sci., Phila., p. 117.
Leioclema punctatum Ulrich, 1882: Jour. Cincinnati Soc. Nat. Hist., vol. V, p. 141, pl. vi, fig. 1-1a.
Leioclema punctatum Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 430.

Zoarium large, dichotomizing; branches three or four millimeters in diameter, and arising from broad basal expansions

or attached to foreign objects; surface even, often slightly spinous. Zoœcial walls thick; openings elliptical, surrounded by numerous small mesopores. Acanthopores rather large.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: LaGrange, Wayland and other places in northeastern Missouri; and in the same beds of the contiguous portions of the adjoining states.

Leioclema foliatum Ulrich.

Leioclema foliatum Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 431, fig. 1 (on p. 301).

Horizon and localities.—Lower Carboniferous, Keokuk beds: Warsaw (Illinois).

Leioclema araneum Ulrich.

Leioclema araneum Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 431, pl. lxxv, figs. 9–9c.

Horizon and localities.—Lower Carboniferous, Chester shales: Ste. Genevieve; Chester (Illinois).

Batostomella nitidula Ulrich.

Batostomella nitidula Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 436, pl. lxxv, figs. 3–3b.

Horizon and localities.—Lower Carboniferous, Chester shales: Chester (Illinois); apparently the same form as occurs in Ste. Genevieve county, Missouri.

Stenopora americana Ulrich.

Stenopora americana Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 437, pl. lxxv, figs. 1–1a.

Stenopora americana, var. *varsaviensis* Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 437, pl. lxxiv, figs. 3–3a.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Warsaw (Illinois).

Stenopora montifera Ulrich.

Stenopora montifera Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p 438, pl. lxxiv, figs. 4–4b.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Clark county; Bentonsport (Iowa).

Stenopora emanciata Ulrich.

Stenopora emanciata Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 438, pl. lxxiv, figs. 2-2a.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Warsaw (Illinois).

Stenopora intercalaris Ulrich.

Stenopora intercalaris Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 439, pl. lxxiv, figs. 5-5a.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Warsaw (Illinois).

Stenopora angularis Ulrich.

Stenopora angularis Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 439, pl. lxxiv, figs. 6-6b.

Horizon and localities.— Lower Carboniferous, Keokuk limestone: LaGrange.

Stenopora intermittens Ulrich.

Stenopora intermittens Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 440, figs. 16a-b.

Horizon and localities.— Lower Carboniferous, Keokuk limestone: Warsaw (Illinois).

Stenopora tuberculata (Prout).

Flustra tuberculata Prout, 1859: Trans. St. Louis Acad. Sci., vol. I, p. 447, pl. xvii, figs. 3-3d.

Cyclopora polymorpha? Prout, 1860: Trans. St. Louis Acad. Sci., vol. I, p. 578.

Cyclopora polymorpha Prout, 1866: Geol. Sur. Illinois, vol. II, p. 421, pl. xxi, figs. 5-5b.

Stenopora tuberculata Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 441, figs. 17a-b.

Zoarium variable in size and shape, forming thin expansions on shells of brachiopods and the hard parts of other organisms; often free, with a well-defined and wrinkled epitheca on the under side. Surface nearly smooth. Zoœcial openings sub-circular or rounded polygonal; tubes prostrate at first, but rapidly curving outward; walls thin. Mesopores not abundant; diaphragms numerous. Acanthopores of medium size.

Horizon and localities.—Lower Carboniferous, Saint Louis limestone: Barrett station (Saint Louis county); Kaskaskia limestone: Chester (Illinois).

Stenopora cestriensis Ulrich.

Stenopora cestriensis Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p 442, pl. lxxiv, figs. 7-7a.

Horizon and localities.—Lower Carboniferous, Kaskaskia limestone: Chester (Illinois).

Stenopora meekana Ulrich.

Stenopora meekana Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 443, pl lxxiii, figs. 7-7a.

Horizon and localities.—Lower Carboniferous, Kaskaskia limestone: Chester (Illinois).

Anisotrypa solida Ulrich.

Anisotrypa solida Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 449, pl. lxxii, figs. 9-9e.

Horizon and localities.—Lower Carboniferous, Kaskaskia limestone: Ste. Genevieve county; Chester (Illinois).

Fistulipora compressa Rominger.

Fistulipora compressa Rominger, 1866: Proc. Acad. Nat. Sci., Phila., p. 123.

Horizon and localities—Lower Carboniferous, Keokuk limestone: LaGrange, Wayland (Clark county).

Fistulipora carbonaria Ulrich.

Fistulipora carbonaria Ulrich, 1884: Jour. Cincinnati Soc. Nat. Hist., vol. VII, p. 45, pl. iii, figs. 1-1a.

Horizon and localities.—Upper Carboniferous, Upper Coal Measures: Kansas City.

Meekopora approximata Ulrich.

Meekopora approximata Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 484, pl. lxxvii, fig.5.

Horizon and localities.—Lower Carboniferous, Kaskaskia limestone: Chester (Illinois).

Meekopora clausa (Ulrich).

Fistulipora? clausa Ulrich, 1884: Jour. Cincinnati Soc. Nat. Hist., vol. VII, p. 47, pl. iii, figs. 4-4b.
Meekopora clausa Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 485, pl. lxxvii, figs. 7-7b.

Horizon and localities.—Lower Carboniferous, Kaskaskia limestone: Chester (Illinois).

Strotopora foveolata Ulrich.

Strotopora foveolata Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 487, pl. lxxvi, figs. 9-9a.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: St. Francisville; Bentonsport (Iowa); Warsaw (Illinois).

Strotopora dermata Ulrich.

Strotopora dermata Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 488, pl. lxxvii, figs. 8-8a.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Keokuk (Iowa).

Cystodictya nitida Ulrich.

Cystodictya nitida Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 493, pl. lxxvi, figs. 4-4c.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: St. Franscisville (probably); Bentonsport (Iowa).

Cystodictya americana Ulrich.

Cystodictya americana Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 494, pl. lxxvi, figs. 5-5a.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Bentonsport (Iowa), and elsewhere on the lower Des Moines river.

Cystodictya pustulosa Ulrich.

Cystodictya pustulosa Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 495, pl. lxxvi, figs. 2-2a.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Keokuk (Iowa).

Coscinium? latum Ulrich.

Coscinium latum Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 497, pl. lxxvi, figs. 7-7b.

Zoarium large, forming a broad, flattened, reticulated frond, with a large expanded basal portion attached to foreign objects. Zoœcial openings somewhat reniform, regularly arranged in rows.

Horizon and localities.—Lower Carboniferous, Burlington limestone: Hannibal?; Burlington (Iowa); Quincy (Illinois).

Dichotrypa intermedia Ulrich.

Dichotrypa intermedia Ulrich, 1890: Geol Sur. Illinois, vol. VIII, p. 500, pl. lxxvi, figs. 9-9c.

Zoarium forming broad, fan-shaped fronds, with attenuated margins; surface smooth, zoœcial apertures circular, and arranged in more or less distinct rows.

Horizon and localities.—Lower Carboniferous, Saint Louis limestone: St. Louis.

Actinotrypa peculiaris (Rominger).

Plate xxxiv, fig. 6.

Fistulipora peculiaris Rominger, 1866: Proc. Acad. Nat. Sci., Phila., p. 123.
Actinotrypa peculiaris Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 503, pl. lxxvii, figs. 3-3b.

Horizon and localities. — Lower Carboniferous, Keokuk limestone: LaGrange; Keokuk (Iowa).

Prismopora trifolia (Rominger).

Fistulipora trifolia Rominger, 1866: Proc. Acad. Nat. Sci., Phila., p. 122.
Prismopora trifolia Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 505, pl. lxxvii, figs. 4-4a.

Horizon and localities — Lower Carboniferous, Keokuk limestone: LaGrange; Keokuk (Iowa).

Evactinopora sexradiata Meek & Worthen.

Evactinopora sexradiata Meek & Worthen, 1868: Geol. Sur. Illinois, vol. III, p. 502, pl. xvii, fig. 3.
Evactinopora sexradiata Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 510, pl. lxxiii, figs. 2-2b.

Zoarium small, delicate, depressed, composed of six flattened expansions, radially placed. Zoœcial apertures subcircular, closely arranged.

Horizon and localities.—Lower Carboniferous, Burlington limestone: Louisiana; Burlington (Iowa).

Evactinopora grandis Meek & Worthen.

Evactinopora grandis Meek & Worthen, 1868: Geol. Sur. Illinois, vol. III, p. 503, pl. xv, figs. 2a–b.

Evactinopora grandis Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 511, pl. lxxiii, fig. 4.

A very large, robust form, with four rays arranged at right angles to one another, and measuring from 6 to 10 centimeters from end to end.

Horizon and localities.—Lower Carboniferous, Burlington limestone: Louisiana, Hannibal.

Evactinopora radiata Meek & Worthen.

Evactinopora radiata Meek & Worthen, 1865: Proc. Acad. Nat. Sci., Phila., p. 165.

Evactinopora radiata Meek & Worthen, 1868: Geol. Sur. Illinois, vol. III, p. 502, pl. xvii, figs. 2a–b.

Evactinopora radiata Ulrich, 1884: Jour. Cincinnati Soc. Nat. Hist., vol. VII, p. 42, pl. ii, figs. 1-1e.

Evactinopora radiata Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 509, pl. lxxiii, figs. 3-3a.

Zoarium ellipsoidal in outline when complete, consisting of from six to eight bilaminar vertical folia, arranged in a radiate manner. In the basal half of the zoarium the folia or rays are united and much thickened by a deposit of calcareous material, so that the "body" or the star as seen in the basal view is comparatively strong, and the rays are preserved in the regular rounded base as angular covering ridges, separated by at first very shallow then gradually deepening and widening furrows. At a point about midway between the summit and base where the rays become free, they are actually elliptical in transverse section, four or five mm. in width, with a non-poriferous border on each edge—the outer one a little the widest: from this point the margins are parellel for a short distance, then converge slowly, till they meet at the narrowly rounded

extremity. The whole base for nearly one-third the distance up the side of the rays is non-poriferous at the surface, the zoœcia apertures here being covered by a granulo-striate deposit of schlerenchyma decreasing in thickness upward. Zoœcia prostrate at first, then arising from the mesial laminæ proceed to each surface of the rays at an angle of about 45°. Apertures subcircular, oblique, the lower margin being most elevated; about 0.22 mm. Interspaces occupied by small lenticular vesicles, a few of which remain open, especially on each side of the mesial plane, the rest being filled and obscured by vertically perforated dense tissue, the perforations appearing in tangential sections as exceedingly numerous minute dark spots. Scattered among them are other spots of large size, that resemble acanthopores, in having the central portion lucid. Lunarium inconspicuous. (Ulrich.)

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Exact place not known.

Glyptopora plumosa (Prout).

Plate xxxiii, fig. 5.

Coscinium plumosum Prout, 1860: Trans. St. Louis Acad. Sci., vol. I, p. 572.

Coscinium plumosum Prout, 1866: Geol. Sur. Illinois, vol. II, p. 414, pl. xxii, figs. 3-3b.

Glyptopora plumosa Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 512, pl. lxxviii, figs. 3-3c.

Zoarium consisting of one or more bilaminar thin expansions, arising from a common attached base, each having both surfaces traversed by strong bifurcating and coalescing ridges, so as to enclose large but rather shallow concave spaces or cups, varying, so far as observed, in length from 20 to 30 mm., and in width from 12 to 32 mm. The surface of the cups slopes gradually up to the base of the sharp edge ridges. At the bottom there is usually a long and narrow depressed macula or "dimple," and on each side, arranged in a more or less distinctly pinnate manner, are a series of long curving, sharply depressed parallel dimples, about 1.2 mm. wide, and from 7 to 16 mm. long.

The ridges on one side of the expansion correspond to the central depression on the other. Zoœcia apertures very slightly oblique, subcircular or oval, 0.15 to 0.20 mm. in diameter, arranged in from four to eight (usually five) alternating rows between the dimples, about nine in 3 mm. Peristome moderate, somewhat more elevated on one side than on the other. Interspaces depressed when perfect, usually about half as wide as the apertures. In thin sections the zoœcial tubes have moderately thick ring-like walls, a portion of the wall being distinguishable from the rest as the lunarium by its lighter color. A large number of small vesicles occupy the interspaces between the zoœcia walls. (Ulrich.)

Horizon and localities.—Lower Carboniferous, Saint Louis limestone: Barrett station (Saint Louis county).

Glyptopora sagenella (Prout).

Coscinium sagenella Prout, 1859: Trans. St. Louis Acad. Sci., vol. I, p. 573.

Coscinium sagenella Prout, 1866: Geol. Sur. Illinois, vol. II, p. 415, pl. xxii, figs. 5–5a.

Glyptopora sagenella Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 513, pl. lxxviii, figs. 6–6a.

Horizon and localities—Lower Carboniferous, Keokuk limestone: Bentonsport (Iowa); Warsaw (Illinois).

Glyptopora megastoma Ulrich.

Glyptopora megastoma Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 518, pl. lxxviii, figs. 5–5a.

Horizon and localities—Lower Carboniferous, Keokuk limestone: Keokuk and Bentonsport (Iowa).

Glyptopora elegans (Prout).

Coscinium elegans Prout, 1860: Trans. St. Louis Acad. Sci., vol. I, p. 572.

Coscinium elegans Prout, 1866: Geol. Sur. Illinois, vol. II, p. 431, pl. xxii, figs. 2–2a.

Glyptopora elegans Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 518, pl. lxxviii, figs. 10–10e.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Warsaw (Illinois).

Glyptopora keyserlingi (Prout).

Coscinium keyserlingi Prout, 1858: Trans. St. Louis Acad. Sci., vol. I, p. 269, pl. xv, figs. 4–4a.

Glyptopora keyserlingi Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 517, pl. lxxviii, figs. 4–4b.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Keokuk (Iowa).

Glyptopora michelinia (Prout).

Coscinium michelinia Prout, 1860: Trans. St. Louis Acad. Sci., vol. I, p. 573.

Coscinium michelinia Prout, 1866: Geol. Sur. Illinois, vol. II, p. 414, pl. xxii, figs. 4–4a.

Glyptopora michelinia Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 515, pl. lxxviii, figs. 8–8b.

Horizon and localities.—Lower Carboniferous, Saint Louis limestone: Barrett station (Saint Louis county).

Tæniodictya ramulosa Ulrich.

Tæniodictya ramulosa Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 528, pl. lxvii, figs. 1–1b.

Horizon and localities—Lower Carboniferous, Keokuk limestone: Keokuk (Iowa).

Tæniodictya frondosa Ulrich.

Tæniodictya frondosa Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 529, pl. lxix, figs. 5–5c.

Horizon and localities.— Lower Carboniferous, Keokuk limestone: Keokuk (Iowa).

Stictoporella basalis Ulrich.

Stictoporella basalis Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 532, pl. lxxv, figs. 5–5b.

Horizon and localities. — Lower Carboniferous, Keokuk limestone: Warsaw (Illinois).

Fenestella filistriata Ulrich.

Fenestella filistriata Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 535, pl. xlix, figs. 2-2a.

Horizon and localities.—Lower Carboniferous, Burlington limestone: Montezuma (Illinois).

Fenestella rudis Ulrich.

Plate xxxiv, fig. 5.

Fenestella rudis Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 537, pl. xlix, figs. 3-3d.

Horizon and localities. — Lower Carboniferous, Keokuk limestone: St. Francisville.

Fenestella limitaris Ulrich.

Fenestella limitaris Ulrich, 1890: Geol. Sur. Illinois, vol VIII, p. 538, pl. xlix, figs. 4-4a.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Keokuk (Iowa).

Fenestella multispinosa Ulrich.

Fenestella multispinosa Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 540, pl. l, figs. 3-3e.

Horizon and localities.— Lower Carboniferous, Keokuk limestone: Keokuk (Iowa).

Fenestella funicula Ulrich.

Fenestella funicula Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 542, pl. li, fig. 6.

Horizon and localities. — Lower Carboniferous, Keokuk limestone: Keokuk (Iowa).

Fenestella serratula Ulrich.

Fenestella serratula Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 544, pl. l, figs. 5-5c.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Keokuk (Iowa).

Fenestella cingulata Ulrich.

Fenestella cingulata Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 543, pl. lii, figs. 1-1a.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Keokuk (Iowa),

Fenestella banyana Prout.

Fenestella banyana Prout, 1859: Trans. St. Louis Acad. Sci., vol. I, p. 450, pl. xviii, figs. 4-4b.

Horizon and localities.—Lower Carboniferous, Saint Louis limestone: Barrett station (St. Louis county).

Fenestella tenax Ulrich.

Fenestella tenax Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 546, pl. li, figs. 2-2e.

Horizon and localities—Lower Carboniferous, Kaskaskia limestone: Chester (Illinois).

Fenestella cestriensis Ulrich.

Fenestella cestriensis Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. li, figs. 5-5b.

Horizon and localities.—Lower Carboniferous, Kaskaskia limestone: Chester (Illinois).

Fenestella flexuosa Ulrich.

Fenestella flexuosa Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p 548, pl. li, figs. 4-4c.

Horizon and localities.—Lower Carboniferous, Kaskaskia limestone: Chester (Illinois).

Fenestella shumardi Prout.

Plate xxxiv, figs. 2a-b.

Fenestella shumardi Prout, 1868: Trans. St. Louis Acad. Sci., vol. I, p. 232.

Fenestella shumardi Meek, 1872: U. S. Geol. Sur. Nebraska, p. 153, pl. vii, figs. 3-ab.

Polyzoum growing apparently in flabelliform expansions and composing an extremely fine delicate network; branches very slender, of uniform size, rather flattened and comparatively coarsely striated on the non-poriferous side, bifurcating at rather regular intervals of from 0.20 to 0.25 inch, the divisions diverging but slightly; fenestrules oblong or about once and a half to nearly twice as long as wide, distinctly quadrangular, especially as seen on the non-poriferous side, and about equaling the breadth of the branches; dissepiments extremely slender or scarcely more than one-fourth as thick as the branches, not widened at the end on the non-poriferous side, but often somewhat expanded by a pore at one or both ends on the other side. Poriferous side with a mesial carina apparently sometimes bearing minute projecting points, and on each side of this angle about two and sometimes three compara-

tively large pores, generally arranged so that there is one at each end of each dissepiment, and another between these opposite each side of each fenestrule. (Meek.)

Horizon and localities.—Upper Carboniferous, Upper Coal Measures: Kansas City.

Fenestella elevatipora Ulrich.

Fenestella elevatipora Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 549, pl. li, figs. 3-3a.

Horizon and localities.—Lower Carboniferous, Kaskaskia limestone: Chester (Illinois).

Hemitrypa hemitrypa (Prout).

Fenestella hemitrypa Prout, 1859: Trans. St. Louis Acad. Sci., vol. I, p. 444, pl. xvii, figs. 3-3d.

Hemitrypa proutana Ulrich, 1890: Geol. Sur. Illinois, vol. VII, p. 560, pl. lvii, figs. 1-1c.

Horizon and localities —Lower Carboniferous, Saint Louis limestone: Barrett station (St. Louis county).

Hemitrypa aspera Ulrich.

Hemitrypa aspera Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 563, pl. lvii, figs. 4-4f.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Keokuk (Iowa).

Hemitrypa nodosa Ulrich.

Hemitrypa nodosa Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 562, pl. lvii, fig. 3.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Bentonsport (Iowa).

Hemitrypa perstriata Ulrich.

Hemitrypa perstriata Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 564, pl. lvii, figs. 6-6a.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Keokuk (Iowa).

Hemitrypa pateriformis Urlich.

Hemitrypa pateriformis Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 564, pl. lvii, figs. 7–7c.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Keokuk (Iowa).

Archimedes owenanus Hall.

Plate xxxiii, fig. 2.

Archimedes owenanus Hall, 1857: Proc. Am. As. Ad. Sci., vol. X. p. 178

Archimedes owenanus Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 570, pl. lxiii, figs. 6–6c.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: St. Francisville.

Archimedes wortheni Hall.

Plate xxxiii, fig. 1.

Archimedes wortheni Hall, 1857: Proc. Am. As. Ad. Sci. vol. X., p. 178.

Archimedes wortheni Hall, 1858: Geol. Iowa, vol. I. p. 651, pl. xxii, figs. 3, 4a–b, 5a–b.

Archimedes reversa Hall, 1858: Geology Iowa, vol. I, p. 652, pl. xxii, fig. 2.

Archimedes wortheni Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 571, pl. lviii, figs. 8–8a.

Zoarium large, flabellate, twisted; often attaining a measurement of 20 to 25 centimeters. Axis robust, elongate, fusiform; volutions quite regular; shaft short, abruptly and broadly expanding. Fenestrated portion very broad, with closely set, rigid branches, and consequently very narrow fenestrules. Zoœcial openings small, somewhat elevated.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Wayland, LaGrange.

Archimedes swallovanus Hall.

Archimedes swallovanus Hall, 1857: Proc. Am. As. Ad. Sci., vol. X, p. 173.

Archimedes swallovanus Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 574, pl. lxiii, figs. 12–12d.

Horizon and localities.—Lower Carboniferous, Kaskaskia limestone: Ste. Genevieve.

Archimedes laxus Hall.

Archimedes laxa Hall, 1857: Proc. Am. As. Ad. Sci., vol. X, p. 178.
Helicopora archimediformis Claypole, 1883: Quart. Jour. Geol. Soc, vol. XXXIX, p. 34, pl. iv, figs. 3-4.
Archimedes laxus Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 580, pl. lxiii, figs. 15-15a.

Horizon and localities.—Lower Carboniferous, Chester limestone: Chester (Illinois).

Lyropora retrosa Meek & Worthen.

Plate xxxiv, fig. 4.

Fenestella (*Lyropora*) *retrosa* Meek & Worthen, 1868: Geol. Sur. Illinois, vol. III, p. 504, pl. xv, fig. 1.

Solid marginal support only known, the expanded, reticulate portion being always entirely removed. The two divisions of the lateral support diverge at an angle of ninety degrees, and are comparatively straight and slender. As in other species of this group, they have their inner edges oblique and not parallel to the plane of the fossil, while the minute, attenuated base of attachment is deflected toward the same side as the inner edge of the lateral marginal supports.

Horizon and localities.—Lower Carboniferous, Burlington limestone: Louisiana.

Lyropora subquadrans Hall.

Lyropora subquadrans Hall, 1857: Proc. Am. As. Ad. Sci, vol. X, p. 180.
Lyropora subquadrans Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 582, pl. lviii, figs. 2-2e.

Horizon and localities.—Lower Carboniferous, Kaskaskia limestone: Chester (Illinois).

Lyropora quincuncialis Hall.

Lyropora quincuncialis Hall, 1857: Proc. Am As. Ad. Sci., vol X, p. 180.
Lyropora quincuncialis Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 583, pl. lviii, figs. 3-3d.

Horizon and localities.—Lower Carboniferous, Kaskaskia limestone: Chester (Illinois).

Lyropora divergens Ulrich.

Lyropora divergens Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 584, pl. lviii, figs. 4-4b.

Horizon and localities.—Lower Carboniferous, Kaskaskia limestone: Chester (Illinois).

Polypora halliana Prout.

Polypora halliana Prout, 1860: Trans. St. Louis Acad. Sci., vol. I, p. 580.
Polypora halliana Prout, 1866: Geol. Sur. Illinois, vol. II, p. 421, pl. xxi, figs. 4-4b.
Polypora halliana Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 587, pl. lix, figs. 5-5c.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Clark county.

Polypora maccoyana Ulrich.

Polypora maccoyana Ulrich, 1890: Geol. Sur Illinois, vol. VIII, p. 588, pl. lix, figs. 3-3d.

Horizon and localities—Lower Carboniferous, Keokuk limestone: Keokuk (Iowa).

Polypora simulatrix Ulrich.

Polypora simulatrix Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 589, pl. lix, figs. 4-4b.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Keokuk (Iowa).

Polypora gracilis Prout.

Polypora gracilis Prout, 1860: Trans. St. Louis Acad. Sci., vol. I, p. 580.
Polypora gracilis Prout, 1866: Geol. Sur. Illinois, vol. II, p. 422, pl. xxi, figs. 1-1a.
Polypora gracilis Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 590, pl. lxi, figs. 10-10a.

Horizon and localities—Lower Carboniferous, Keokuk limestone: Warsaw (Illinois).

Polypora retrosa Ulrich.

Polypora retrorsa Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 591, pl. lix, figs. 6–6d.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Keokuk (Iowa).

Polypora radialis Ulrich.

Polypora radialis Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 591, pl. lx, figs. 1–1d.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Keokuk (Iowa).

Polypora spininodata Ulrich.

Polypora spininodata Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 594, pl. lx, fig. 3.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Warsaw (Illinois).

Polypora biseriata? Ulrich.

Polypora biseriata? Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 592, pl. lx, figs. 4–4b.

Horizon and localities.—Lower Carboniferous, Saint Louis limestone: Barrett station (St. Louis county).

Polypora varsoviensis Ulrich.

Polypora varsoviensis Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 593, pl. lx, figs. 2–2b.

Horizon and localities.—Lower Carboniferous, Saint Louis limestone: Barrett station (St. Louis county).

Polypora cestriensis Ulrich.

Polypora cestriensis Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 549, pl. lv, figs. 4–4b.

Horizon and localities.—Lower Carboniferous, Kaskaskia limestone: Ste. Genevieve.

Polypora tuberculata Prout.

Polypora tuberculata Prout, 1859: Trans. St. Louis Acad. Sci., vol. I, p. 449, pl. xviii, fig. 8.

Horizon and localities.—Lower Carboniferous, Kaskaskia limestone: Chester (Illinois).

Polypora corticosa Ulrich.

Polypora corticosa Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 596, pl. lx, figs. 5–5c.

Horizon and localities.—Lower Carboniferous, Kaskaskia limestone: Chester (Illinois).

Polypora spinulifera Ulrich.

Polypora spinulifera Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 598, pl. lxi, figs. 2-2a.

Horizon and localities.—Lower Carboniferous, Kaskaskia limestone: Chester (Illinois).

Polypora submarginata Meek.

Polypora marginata Geinitz, 1866: Carb. und Dyas in Nebraska, p. 69, tab. v, figs. 11a-b. (Not McCoy, 1844.)

Polypora submarginata Meek, 1872: U. S. Geol. Sur. Nebraska, p. 154, pl. vii, figs. 7a-b.

Polypora submarginata Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 602, pl. lxi, figs. 6-6b.

Horizon and localities.—Upper Carboniferous, Upper Coal Measures: Kansas City. Probably Red Oak (Iowa) and Nebraska City (Nebraska).

Fenestralia? sancti-ludovici Prout.

Fenestralia sancti-ludovici Prout, 1859: Trans. St. Louis Acad. Sci., vol. I, p. 235, pl. xv, figs. 1-1a.

Fenestralia sancti-ludovici Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 604, pl. lv, fig. 5.

Horizon and localities.—Lower Carboniferous, Saint Louis limestone: St. Louis.

Thamniscus furcillatus Ulrich.

Plate xxxiii, fig. 6.

Thamniscus furcillatus Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 609, pl. lxii, figs. 9-9b.

Horizon and localities.—Lower Carboniferous, Kaskaskia limestone: Ste. Genevieve.

Pinnatopora youngi Ulrich.

Pinnatopora youngi Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 615, pl. lxvi, fig. 3.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Keokuk (Iowa).

Pinnatopora vinei Ulrich.

Pinnatopora vinei Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 616, pl. lxvi, figs. 5–5b.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Keokuk (Iowa).

Pinnatopora conferta Ulrich.

Pinnatopora conferta Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p 618, pl. lvi, fig. 5.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Keokuk (Iowa).

Pinnatopora trilineata (Meek).

Glauconome trilineata Meek, 1872: U. S. Geol. Sur. Nebraska, p. 157, pl. vii, figs. 4b–d.

Pinnatopora trilineata Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 620, pl. lxvi, fig. 6.

Horizon and localities.—Upper Carboniferous, Upper Coal Measures: Kansas City.

Ptilopora acuta Ulrich.

Ptilopora acuta Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 622, pl. lxv, figs. 4–4a.

Horizon and localities—Lower Carboniferous, Keokuk limestone: Keokuk (Iowa).

Ptilopora valida Ulrich

Ptilopora valida Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 623, pl. lxv, figs. 5–5c.

Horizon and localities.— Lower Carboniferous, Keokuk limestone: Bentonsport (Iowa).

Ptilopora cylindracea Ulrich.

Ptilopora cylindracea Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 623, pl. lxvi, figs. 2-2b.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Bentonsport (Iowa).

Ptilopora prouti Hall.

Ptilopora prouti Hall, 1858: Geology Iowa, vol. I, p. 653, pl. xxii, figs. 6a–6c.

Ptilopora prouti Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 625, pl. lxv, figs. 3–3c.

Horizon and localities.—Lower Carboniferous, Saint Louis limestone: Barrett station (Saint Louis county).

[Septopora cestriensis Prout.

Septopora cestriensis Prout, 1859: Trans. St. Louis Acad. Sci., vol. I, p. 448, pl. xviii, figs. 2–2b.

Septopora cestriensis Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 628, pl. lxiv, figs. 1–1b.

Horizon and localities.—Lower Carboniferous, Kaskaskia limestone: Chester (Illinois).

Septopora biserialis (Swallow).

Plate xxxiv, figs. 1a-d.

Synocladia biserialis Swallow, 1858: Trans. St. Louis Acad. Sci., vol. I, p. 179.

Synocladia virgulacea Geinitz, 1866: Carb. und Dyas in Nebraska, p. 70.

Synocladia biserialis Meek, 1872: U. S. Geol. Sur. Nebraska, p. 156, pl. vii, figs. 5a-5e.

Synocladia biserialis Meek, 1874: Am. Jour. Sci. (3), vol. VII, p. 486.

Synocladia biserialis Meek, 1875: Geol. Sur. Ohio. Pal., vol. II, p. 326, pl. xx, figs. 5-5b.

Synocladia biserialis White, 1877: U. S. Geog Sur. w. 100 Merid., vol. IV, p. 107, pl. vii, figs. 3a-3c.

Synocladia biserialis White, 1884: Geol. Sur. Indiana, 13th Ann. Rept., pt. II, p. 138, pl. xxv, figs. 11-13.
Synocladia biserialis Keyes, 1888: Proc. Acad. Nat. Sci., Phila., p. 225.
Septopora biserialis Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 631, pl. lvi, fig. 11.

Zoarium large, obconical, more or less irregular, usually folded; branches subequal, nearly parallel, united at regular intervals by lateral projections. Fenestrules usually more or less distinctly crescentic in shape. Zoœcial openings small, rather numerous.

Horizon and localities.—Upper Carboniferous, Lower Coal Measures: Des Moines (Iowa); Upper Coal Measures: Kansas City.

Diplopora bifurcata Ulrich.

Diplopora bifurcata Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 637, pl. lxii, figs. 12-12a.

Horizon and localities.—Lower Carboniferous, Kaskaskia limestone: Chester (Illinois).

Sphrogropora parasitica Ulrich.

Sphrogropora parasitica Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, pl. lxv, figs. 6-6a.

Horizon and localities—Lower Carboniferous, Kaskaskia limestone: Chester (Illinois).

Rhombopora dichotoma Ulrich.

Rhombopora dichotoma Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 650, pl. lxx, figs. 13-13b.

Horizon and localities.—Lower Carboniferous, Burlington limestone: Hannibal?; Burlington (Iowa).

Rhombopora varians Ulrich.

Rhombopora varians Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 652, pl. lxxi, figs. 1-1b.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Warsaw (Illinois).

Rhombopora transversalis Ulrich.

Rhombopora transversalis Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 655, pl. lxxi, figs. 4-4b.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Warsaw (Illinois).

Rhombopora attenuata Ulrich.

Rhombopora attenuata Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 655, pl. lxx, fig. 7.

Horizon and localities—Lower Carboniferous, Keokuk limestone: Warsaw (Illinois).

Rhombopora tabulata Ulrich.

Rhombopora tabulata Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 658, pl. lxx, figs. 2-2c.

Horizon and localities—Lower Carboniferous, Kaskaskia limestone: Ste. Genevieve.

Rhombopora tenuirama Ulrich.

Rhombopora tenuirama Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 660, pl. lxx, figs. 8-8b.

Horizon and localities.—Lower Carboniferous, Kaskaskia limestone: Kaskaskia (Illinois).

Rhombopora crassa Ulrich.

Rhombopora crassa Ulrich, 1884: Jour. Cincinnati Soc. Nat. Hist., vol. VII, p. 28, pl. i, figs. 2-2b.

Horizon and localities.—Upper Carboniferous, Upper Coal Measures: Kansas City.

Rhombopora lepidodendroides Meek.

Plate xxxiii, figs. 4a-b.

Rhombopora lepidodendroides Meek, 1872: U. S. Geol. Sur. Nebraska, p. 141, pl. vii, figs. 2a-f.

Rhombopora lepidodendroides White, 1875: Expl. and Sur. w. 100 Merid., vol. IV, p. 99, pl. vi, figs. 5a-d.

Rhombopora lepidodendroides Keyes, 1888: Proc. Acad. Nat. Sci., Phila., p. 225.

Ramose slender, cylindrical or slightly compressed, and bifurcated at regular, distant intervals; divisions nearly straight between the points of bifurcation, where they diverge at angles of about 70° to 80°; composed of small, short, nearly round, tapering tubes that ascend from an imaginary axis obliquely outward, with a more or less curve to the surface, near which they are separated by interspaces, which in cross-sections show the minute cellular structure; calyces arranged very regularly in quincunx, so as to form vertical and oblique rows; distinctly rhombic at the surface, where their margins are roughened by small prominent, node-like grains, placed one at each corner, with smaller granules along the edges between.

Horizon and localities.—Upper Carboniferous, Upper Coal Measures: Kansas City.

Bactropora simplex Ulrich.

Bactropora simplex Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 663, pl. lxx, figs. 14-14b.

Horizon and localities — Lower Carboniferous, Keokuk limestone: Clark county.

Streblotrypa major Ulrich.

Streblotrypa major Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 666, pl. lxxi, figs. 8-8d.

Horizon and localities.— Lower Carboniferous, Keokuk limestone: Keokuk (Iowa).

Streblotrypa radialis Ulrich.

Streblotrypa radialis Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 667, pl. lxxii, figs. 2-2d.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Bentonsport (Iowa).

Streblotrypa nicklesi Ulrich.

Streblotrypa nicklesi Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 667, pl. lxxi, figs. 9-9c.

Horizon and localities.—Lower Carboniferous, Kaskaskia limestone: Ste. Genevieve.

Streblotrypa distincta Ulrich.

Streblotrypa distincta Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 669, pl. lxxi, figs. 10-10b.

Horizon and localities.—Lower Carboniferous, Kaskaskia limestone: Chester (Illinois).

Worthenopora spinosa Ulrich.

Worthenopora spinosa Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 669. pl. lxviii, figs. 1–1g.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Keokuk (Iowa).

Worthenopora spatulata (Prout).

Flustra spatulata Prout, 1859: Trans. St. Louis Acad. Sci., vol. I, p. 446, pl. xvii, figs. 2–2c.

Worthenopora spatulata Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p 670, pl. lxviii, figs. 2–2a.

Horizon and localities.—Lower Carboniferous, Saint Louis limestone: Barrett station (St. Louis county).

Cyclopora fungia Prout.

Cyclopora fungia Prout, 1860: Trans. St. Louis Acad. Sci., vol. I, p. 577.

Cyclopora fungia Prout, 1866: Geol. Sur. Illinois, vol. II, p. 419, pl. xxii, figs. 9–9b.

Cyclopora fungia Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 671, pl. lxviii, figs. 3–3g.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: St. Francisville (Clark county).

Cyclopora expatiata Ulrich.

Cyclopora expatiata Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 673, pl. lxviii, figs. 4-4d.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Warsaw (Illinois).

Proutella discoidea (Prout).

Cyclopora discoidea Prout, 1860: Trans. St. Louis Acad. Sci., vol. I, p. 578.

Cyclopora discoidea Prout, 1866: Geol. Sur. Illinois, vol. II, p. 420, pl. xxii, figs 10-10a.

Proutella discoidea Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 674, pl. lxix, figs. 4-4d.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Keokuk (Iowa).

Cycloporella spinifera Ulrich.

Cycloporella spinifera Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 675, pl. lxix, figs. 1-1c.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Warsaw (Illinois).

Cycloporella perversa Ulrich.

Cycloporella perversa Ulrich, 1890: Geol. Sur. Illinois, vol. VIII, p. 676, pl. lxix, figs. 3-3b.

Horizon and localities.—Lower Carboniferous, Keokuk limestone: Bentonsport (Iowa).

PLATE XXXIII.

Explanation of Plate XXXIII.

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Fig. 1. *Archimedes wortheni* 26
A large example. (Cox collection.)
Carboniferous, Keokuk limestone.

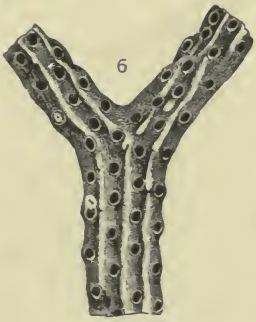
Fig. 2. *Archimedes owenanus* 26
A typical specimen. (Mus. Mo. Geol. Sur.)
Carboniferous, Keokuk limestone.

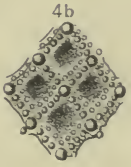
Fig. 3. *Phacelopora pertenuis* 13
Part of a zoarium. (After Ulrich.)
Silurian, Trenton limestone.

Fig. 4. *Rhombopora lepidodendroides* 35
4a. A large example. (Hare collection.)
4b. Surface. (Enlarged)
Carboniferous, Upper Coal Measures.

Fig. 5. *Glyptopora plumosa* 20
Fragment. (After Ulrich.)
Carboniferous, St. Louis limestone.

Fig. 6. *Thamniscus furcillatus* 31
Fragment. (Enlarged, after Ulrich.)
Carboniferous, Kaskaskia limestone.





POLYZOANS.

PLATE XXXIV.

Explanation of Plate XXXIV.

Page.

Fig. 1. *Setopora biserialis* 32
1a. Non-poriferous side. (Hare collection.)
1b. A part of same (enlarged).
1c. Poriferous side (enlarged).
1d. Another specimen. (Hare collection.)
Carboniferous, Upper Coal Measures.

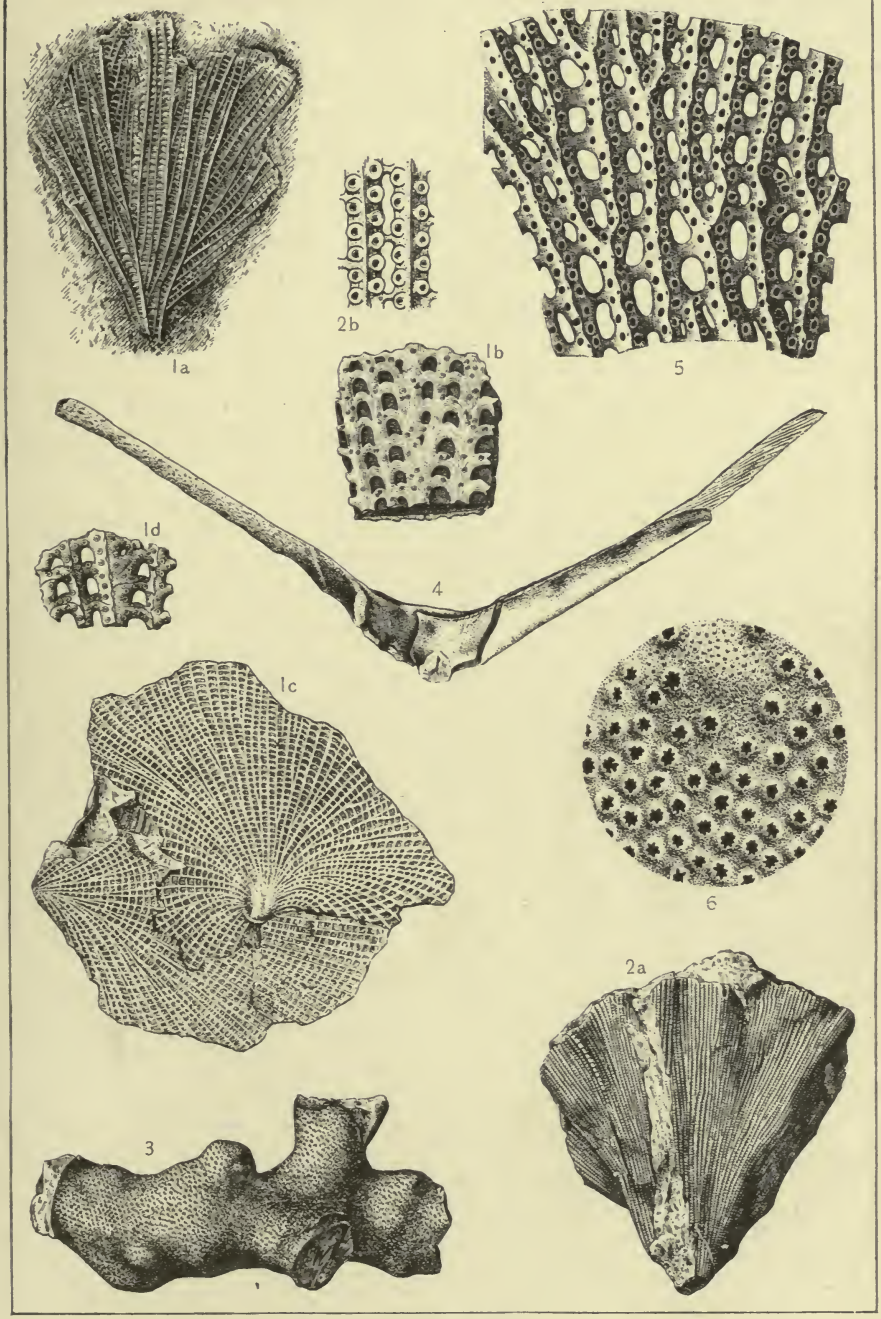
Fig. 2. *Fenestella shumardi* 24
2a. Specimen well preserved. (Hare collection.)
2b. Surface (enlarged).
Carboniferous, Upper Coal Measures.

Fig. 3. *Fistulipora nodulifera*.
Part of a branch. (Hare collection.)
Carboniferous, Upper Coal Measures.

Fig. 4. *Lyropora retrorsa* 27
Marginal support. (Mus. Mo. Geol. Sur.)
Carboniferous, Burlington limestone.

Fig 5. *Fenestella rudis* 23
Fragment. (After Ulrich.)
Carboniferous, Keokuk limestone.

Fig. 6. *Actinotrypa peculiaris* 18
Surface (enlarged).
Carboniferous, Keokuk limestone.



POLYZOANS.